Annual Monitoring Report Summary
Downeast Lakes Land Trust,
Farm Cove Community Forest

2011

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Table of Contents

I. Introduction

Downeast Lakes Land Trust (DLLT) periodically monitors its forest to ensure that its management objectives for wildlife, recreation, timber production, and environmental protection are being met. Some items, such as the inventory of standing timber, are conducted periodically. Others, such as monitoring timber harvest operations, may be conducted on a weekly basis as operations are ongoing. This annual report summarizes the monitoring information for members of the land trust, members of the local community, and for others interested in the results of DLLT's management. For more information on DLLT's forest management, please contact the land trust or visit www.downeastlakes.org. The monitoring update includes annual summaries for the operating year December through November, beginning with the 2010 operating year in December, 2009 when the winter harvest began. (In some years, winter harvest may not begin until January; in these years the operating year will match the calendar year). Periodic monitoring data that are updated every 5-10 years are included in Section III.

This report covers the 33,708-acre Farm Cove Community Forest as acquired by Downeast Lakes Land Trust in 2005 and expanded in 2008 by acquisition of the 6,628-acre Wabassus Lake Tract. The management plan addendum for the Wabassus Lake Tract was completed and adopted June 15, 2010. All timber harvest activity in 2011 was on the original 27,080-acre Farm Cove Community Forest.

II. Annual Monitoring Update

Timber Harvest

Timber Harvest Summary	2009		2010		2011	
Species	**Product**	**Cords**	**Product**	**Cords**	**Product**	**Cords**
Hemlock	Stud	2925.8	Stud	1782.8	Stud	1856.5
Hemlock	Pulp	2015.3	Pulp	1330.7	Pulp	2343.8
Hemlock	Logs	12.3			Logs	307.9
Spruce	Logs	971.0	Logs	428.6	Logs	422.1
Softwood	Pulp	244.4	Pulp	750.3	Pulp	366.9
Softwood	Stud	0	Stud	267.5	Stud	88.2
Pine	Logs	0			Logs	9.6
Hardwood	Pulp	836.4	Pulp	2326.7	Pulp	1815.6
Hardwood	Logs	1.3	Logs	6.5	Logs	4.0
Hardwood	Veneer	0.3	Veneer	2.9	Veneer	0.1
Hardwood	Firewood	18.4				
Subtotal (without biomass)*		7025.2		6896.1		7214.7
Biomass	Chips	2238.8		2365.2		2302.4
Total (with biomass)*:		9264.0		9261.3		9517.1

* Biomass sales are typically incidental to planned harvest volumes and are composed of tops or limbs that are not considered within timber inventory. In 2008, 705 cords of hemlock pulp wood was marketed as biomass fuel due to market conditions; this volume is included in hemlock pulp

in the table above, not in the biomass volume. In 2009, 112 cords of biomass included in the figures above was harvested during maintenance of the Farm Cove Dam Road.

Other Forest Products

DLLT, as part of its community forest management, routinely issues permits to local users of forest products, subject to policies and procedures approved by the DLLT Board of Directors.

In 2011, DLLT issued permits for gravel, wood for local craftsmen, firewood, and "tips" for wreath-making.

Gravel: 5 permits issued, 522 cubic yards total
Wood for local craftsmen: 2 permits issued, for harvest of 2 cedar and 3 white ash trees
Firewood: 31 permits issued; 28 for one cord each and 3 for 2 cords each
Tipping: 8 permits issued

Unanticipated Removal or Loss

DLLT staff and forestry contractors monitor the forest for unanticipated loss due to insects, disease, wind, fire, excessive browsing by animals, and timber theft during routine management operations. DLLT also uses reports from members and others who use the forest to keep informed of changes in the forest.

No unanticipated losses occurred in 2011.

Regeneration

DLLT staff, board members, and forestry contractors monitor forest harvest areas to determine if regeneration is occurring as anticipated and intended in forest harvest plans. Qualitative or quantitative inspections generally will occur within three years of harvests intended to encourage regeneration.

2011:

2008 Regeneration and Monitoring Statement

Background: As specified in the management plan, 2008 harvest regeneration monitoring was conducted in June 2012. All harvest types were visited, despite the fact that regeneration was not a goal for all harvest areas. This also gives forest managers an opportunity to see any other progress in the development of post harvest stands. If undesirable conditions are observed, they were noted to avoid those conditions in the future.
Results: All intended regeneration harvests were successful. Many of the harvests were not intended to be traditional establishment harvests, and stocking of residual trees were of sufficient abundance. Regeneration was also found in these areas as well however. An asterisk (*) notes a treatment type where regeneration was the primary objective.
Detailed Results:

Harvest area #1, Winter 2008 (as referred to in harvest proposal)- Have regenerated small amounts of regeneration in openings and in the understory where diffuse light enters from an opening. Most regeneration is balsam fir and maple sprouts.
Harvest area #2, Winter 2008- Area 2 is indistinguishable from harvest area 1. Treatment types were the same. Areas differentiated on non-timber resources, but had the same treatment types. The regeneration was very similar.
Harvest area #3, Winter 2008- Area 3 has a fair amount of regeneration, perhaps more than expected from a thinning from below. Much of this may have been pre-established. Species consisted of spruce, hemlock and fir. Some maple sprouting was also observed.
Harvest area #4, Winter 2008- Area 4 has established a substantial amount of maple sprouts. Other regeneration exists, but was likely pre-established regeneration. This includes hemlock, spruce and fir.
Harvest area #1, Summer 2008- This harvest area was quite a light harvest, but some regeneration has begun to establish. Generally speaking, species consist of spruce, fir, and small amounts of yellow birch.
Harvest area #2*, Summer 2008- Area 2's primary goal was to establish regeneration. After 3 years, some maple and yellow birch regeneration has begun to establish. Poplar sprouts also exist where there were poplar cut. It should be noted that 3 years following a harvest of this nature is a very short amount of time to expect significant amounts of regeneration.
Harvest area #3, Summer 2008- Area 3 has successfully regenerated softwood and yellow birch, in a relatively patchy fashion. Some areas appear to have more evenly distributed regeneration, although it is suspected that this was pre-established.
Harvest area #4, Summer 2008- Area 4 is regenerating as much as can be expected from a harvest of this nature. Although some regeneration exists, it is suspected that much of it was pre-established.

Focus Species Habitat Management Activities

Management for specific "focus species" is used to benefit species of interest to the local community and to provide habitat for the full range of wildlife species found on the forest. The management plan sets out specific management activities for these species.

Deer Wintering Areas

DLLT has a major goal of restoring deer wintering areas. Management activities include both building the area of mature forest softwood cover through partial harvesting in historic deer wintering areas (primary and secondary cover), harvesting to create openings that will produce browse and regenerate the forest to ensure a steady supply of future winter cover, and seeding landings to create summer food for deer and other species.

Deer Wintering Area Management Activities					
Habitat and Activity	**2008 (ac)**	**2009 (ac)**	**2010 (ac)**	**2011 (ac)**	**2012 (ac)**
Partial harvests (selection, initial	0	Appr. 20	0	34	

shelterwood, and intermediate harvests)					
Regeneration harvest openings (patch-cut, overstory removal, and clearcut	0	0	Appr. 40	9 acres	
Herbaceous seeding[1]	0	0	0	0	
Management consistent with DWA 5-year operations plan	Yes	Yes	Yes	Yes	
Other Monitoring:					

In summer 2010, harvests were conducted in and near the edges of the Burroughs Brook deer wintering area corridor, primarily within stands designated as never cover or non-cover. Harvest objectives included increasing the growth on existing regeneration and improving the establishment of new regeneration. This harvest should help non-cover areas to develop into secondary cover in the future.

Snowshoe Hare

The best snowshoe hare habitat is created by even-aged regeneration harvests in softwood-cover. The "regeneration harvest openings" for deer wintering area management is also used to monitor the amount if snowshoe hare habitat created.

Grouse and Woodcock

Grouse and woodcock management is based on creating a number of patches of different age classes in aspen and birch stands. The following monitoring elements have been included to track progress toward objectives outlined in the management plan.

Grouse and Woodcock Management

Annual Monitoring Element	Goal	2008	2009	2010	2011	2012
Number of grouse/woodcock unit plans developed	Not yet specified	One*	One*	None	Two	
Cumulative number of units under active management	Not yet specified	One*	Two*	Two	Four*	
Number of acres harvested (clearcut or overstory removal) in management unit blocks	Not yet specified	4	1.2		32	
Number of acres of herbaceous seeding	Not yet specified	Landings seeded	Landings seeded	Landings seeded	Landings Seeded	

[1] DLLT also keeps track of species and location of species used in herbaceous seeding.

		spring 2009	summer 2009	summer 2010	Summer 2011	

* In the 2008 summer harvest, a set of seven patch cut harvest blocks in a poplar-birch fire origin stand on the south side of Burroughs Brook on the Farm Cove peninsula were created to provide early-successional habitat, including habitat for Grouse and Woodcock and browse for deer and moose. Average block size was 0.56 acres, with just under 4 acres harvested in total. A complete plan for this grouse/woodcock unit has not yet been developed, but the harvest plan calls for a 10-year re-entry to harvest new ½ acre patches adjacent to the patches harvested in 2008.
* In the 2009 summer harvest, a set of 3 patch cut harvest blocks in a 28 acre poplar-birch fire origin stand east of Burroughs Brook on the Farm Cove Mountain Road were created to provide early successional habitat, including habitat for Grouse and Woodcock and browse for deer and moose. The average patch size was 0.3 acres, with under 1.25 acres harvested in total.
*In the 2010 winter harvest, 130 acres of designated Grouse/Woodcock habitat were included on the Farm Cove Peninsula. In the 2010 summer harvest, there were 22 acres of designated Grouse/Woodcock habitat included. Upon closer inspection of designated grouse areas, it was determined areas were either un-merchantable, or were currently unsuitable for grouse and woodcock management.
*In the 2011 winter harvest, 9 acres were harvested in 8 patches of between 2 and 0.5 acres each. These areas were dominated by mixed intolerant hardwoods, with some scattered hemlock and pine. This occurred on the Daugherty ridge road. In the summer of 2011, 4 clearcuts were created ranging between 3 and 6 acres in size. These patches were irregular and occurred mostly in intolerant hardwoods, with some mixed spruce and hemlock. This occurred on the Dobsis dam road.
The balance of aspen-birch age classes on the entire forest is also monitored periodically as cover type maps are updated (see Section III).

Black Bear

Black bear habitat management is accomplished through our creation and maintenance of young-forest openings by implementing the grouse/woodcock and deer wintering area management plans and implementation of the hard mast guidelines during harvest operations. These activities are monitored, and we conduct no separate monitoring of black bear habitat conditions or management.

Riparian Zone Management

Harvest and other operations monitoring forms are used to gather information on harvest activities within riparian management areas. A summary of problems identified (e.g., unsatisfactory performance relative to management plan guidelines or site-specific plans) and steps taken to correct problems described below.

Year	Unsatisfactory Implementation of RMZ Guidelines and Action Taken				
	Trout/Salmon	Beaver	Lake	Other Stream	Vernal Pool
2008	No problems observed	No problems observed	No problems observed	No problems observed	No problems observed
	Action:				
2009	No problems observed	No problems observed	No problems observed	No problems observed	No problems observed
	Action:				
2010	No problems observed	No problems observed	No problems observed	No problems observed	No problems observed
	Action:				
2011	No problems observed	No problems observed	No problems observed	No problems observed	No problems observed
	Action:				
2012					
	Action:				

Beaver

Habitats modified by beaver activity have been shown to be beneficial to a wide range of wildlife, including waterfowl, wading birds, migratory songbirds, and moose. Other mammals are such as deer and bear are attracted to the early flush of nutritious vegetation in spring. Recent studies from the Moosehead lake region have found that rusty blackbirds (a declining species listed as Special Concern in Maine) were strongly associated with beaver-impounded wetlands, and olive-sided flycatcher (also Special Concern) was also found in these areas (Pelletier and Arsenault 2007). Maine has a long history of habitat management guidance that recognizes the benefits of maintaining beaver activity in the landscape, including Deifenbach et. al 2008, Foss 1999, and Bryan 2007. Only one stream in the DLLT FCCF, Burroughs Brook, has been designated as a priority beaver habitat in the Focus Species Addendum. Burroughs Brook is a slow moving stream with historic beaver use and forest cover that is less dense than that on streams with priority for brook trout and Atlantic salmon.

All streams: For each stream, DLLT used 2005 aerial photography to estimate the number of active colonies and likely historic colonies (as indicated by cover type) and length of stream affected by each. These data will be compared with future aerial photography. During the course of routine management and interviews with board members, DLLT gathers information on the number of new colonies and the number colonies abandoned each year.

Beaver Stream Reaches: Monitoring consists of tracking the number of harvests that create openings greater than 14,000 square feet that extend within 100 feet of designated beaver stream reaches (these are harvests specifically designed to enhance beaver food supplies), reporting of new beaver dams on trout streams, and on-site monitoring of conformance with riparian management guidelines described in the management plan.

Trout Streams: If reports indicate that beaver may be increasing on trout streams, DLLT will compare the current level of beaver activity with historical (2005) estimates to determine if beaver management activity may be warranted.

2005 Beaver Activity Baseline							
TWP	Stream (from E to W)	FSF Mgmt[1]	Total Length (mi)[2]	Active Colonies[3]		Historic & Potential Colonies[4]	
				No.	Total Stream Length (mi)	No.	Total Stream Length (mi)
T6	Un-named – E boundary	O	0.54	0	0	0	0
T6	Un-named – S boundary	O	0.12	0	0	0	0
T6	Un-named – S boundary	O	0.23	0	0	0	0
T6	Scott Brook	T	1.73	1	0.08	2	0.42
T6	Grand Lake Brook	T	3.3	0	0	5	1.25
T6	Rolfe Brook	T	3.43	1	0.16	8	0.97
T6	Rolfe Brook - S tributary	T	0.50	0	0	2	0.35
T6	Rolfe Brook – S tributary branch	T	1.00	0	0	.1	0.38
T6	Rolfe Brook – N tributary	O	0.71	0	0	0	0
T6	Farm Cove tributary	O	0.46	0	0	0	0
T6	Burroughs Brook	B	1.80	1	0.62	1	0.16
T6	Narrows Tributary	O	0.68	0	0	0	0
T6	Julia Brook	T, O	1.24	0	0	4	0.52
T6	**Subtotal**		**15.74**	**3**	**0.86**	**19**	**4.05**
T5	Wabassus Lake Tributary	O	1.94	0	0	1	0.17
T5	Dark Cove tributary	O	0.46	0	0	0	0
T5	Hayes Brook	T, E	1.81	1	.16	3	0.69
T5	Machias River tributary	O, E	.99	0	0	0	0
T5	Sysladobsis Lake Tributary	T	1.04	1	0.09	2	0.09
T5	Fourth Machias Lake tributary	T,E,O	0.76	0	0	1	0.14
T5	Belden Brook	T, E	2.70	0	0	0	0
T5	Dead Stream	E	0.55	0	0	0	0
T5	Fourth Machias Lake W tributary	E	0.79	0	0	0	0
T5	**Subtotal**		**11.04**	**2**	**0.25**	**7**	**1.09**
T5+T6	**TOTAL**		**26.78**	**5**	**1.11**	**26**	**4.59**

1. FSF Management: B (Beaver); T (Trout/Salmon); E (Ecological Reserve); O (Other).
2. MEOGIS H24 GIS layer (except inaccurate section of Rolfe Brook S tributary branch
3. Areas with signs of beaver activity separated by less than 0.1 mile were considered to be part of a single colony.
4. Includes deadwater sections that may have active beaver activity.

Beaver and Trout Stream Monitoring						
YEAR	Stream	Beaver Reaches			All Streams	
		# harvests within 100 ft. of designated beaver reach	Total Area within 100ft. (ac)	Stream Shade, other BMPs, and LURC rules met?(Y/N)	# New Colonies	# Colonies Abandoned
2008	No applicable harvests	0	na	na	4	?
2009	Burroughs Brook	0	na	na	0	?
2010	Burroughs Brook	2	4.5	Yes	?	?
2011		0	na	na		
2012						

Note: add new rows for each year as needed

In 2010, DLLT directors reported no new active beaver colonies.

Brook Trout / Atlantic Salmon

In 2011, DLLT worked with Project SHARE (Salmon Habitat and River Enhancement) to remove a fish passage barrier and flowage on Hayes Brook caused by a former road crossing that used logs as a culvert and was subsequently colonized by a beaver dam. Additional flowages on Rolfe Brook caused by abandoned beaver dams, possibly constructed on former splash dams from the river driving era, were removed by volunteers under a permit from the Maine Department of Inland Fisheries and Wildlife.

Exotic and Invasive Plants

DLLT monitors the use of exotic (non-native) species to ensure that they do not become invasive. Currently DLLT's use of exotic species is limited to planting non-invasive grasses and legumes for wildlife habitat improvement. In addition, DLLT checks for the presence of known invasive plants that may be present in the area.

Exotic and Invasive Plants					
	2008	**2009**	**2010**	**2011**	**2012**
Wildlife Plantings					
Number of sites planted	5 areas; 2008 winter harvest landings and all excavated ditches	2008 summer and 2009 winter harvest landings and all excavated ditches	2009 summer and 2010 winter harvest landings and all excavated ditches	2010 summer and 2011 winter harvest landings and all excavated ditches, incl.	
Species	Conservation mix (contains non-native grasses & legumes)	Conservation mix (contains non-native grasses & legumes)	Conservation mix (contains non-native grasses & legumes)	Conservation mix (contains non-native grasses & legumes)	
Estimated total area planted	3 acres	?	?	?	
Seed mix does not contain species on Maine's list of invasive plants (Y/N)	Y	Y	Y	Y	
Location identified in GIS (Y/N)	Y (general location of harvest areas and roads)	Y (general location of harvest areas and roads)	Y (general location of harvest areas and roads)	Y (general location of harvest areas and roads)	
Number of sample sites checked for undesirable spread	Five (earlier plantings)	Three (earlier plantings)	Five (earlier plantings)	Three (earlier plantings)	
Undesirable spread noted?	No	No	No	No	
Invasive Plants					
All harvest sites checked?	Yes, during routine operations and tour	Yes, during routine operations and tour	Yes, during routine operations and tour	Yes, during routine operations and tour	
Species found?[1]	No	No	No	No	

[1] Describe severity or impacts of any invasive species or exotic species and develop an action plan if management is feasible and warranted.

Harvest Impacts

Harvest sites and road improvement projects are monitored by DLLT's forest management contractor, Executive Director, and Board of Directors to ensure compliance with applicable laws and Best Management Practices designed to protect soil and water quality. Harvest operations are also monitored to ensure that operations comply with silvicultural prescriptions, damage to standing timber and regeneration is minimized, sensitive sites are protected, and site-specific wildlife practices and objectives are being met.

Compliance with Harvest Guidelines					
Monitoring element/guideline	**2008**	**2009**	**2010**	**2011**	**2012**
Hard Mast referenced in harvest plans for applicable stands	S	S	S	S	

Satisfactory execution of hard mast guidelines during harvest	S	S	S	S	
Wildlife trees and downed logs	S	S	S	S	
Retention patches	na	na	S	S	
Wildlife Trees retention Patch: quantitative sample of selected harvest blocks (number of blocks, performance)	na	na	S	S	
Riparian and Lakeshores: applicable guidelines referenced in management plans	S	S	S	S	
Riparian and Lakeshores: applicable guidelines and BMPS implemented	S	S	S	S	
BMPs beyond riparian and lakeshore zones	S	S	S	S	
# vernal pools known prior to harvest plan:	0	0	0	0	
# new vernal pools identified	0	0	0	0	
Vernal pools identified in harvest plans and guidelines implemented during harvest	na	na	na	na	

S – Satisfactory
U - Unsatisfactory, problem ongoing (describe below)
U/S – Unsatisfactory, problem corrected (describe below)
Except where noted above, all harvests are monitored for all elements

Unsatisfactory Harvest Conditions: Identification and Resolution

During 2011, harvest conditions were generally highly satisfactory in terms of both silvicultural and ecological objectives. The harvest contractor has continued to demonstrate a strong understanding of DLLT goals and objectives.

Road Monitoring

Road Monitoring Summary	
YEAR	**Roads Inspected, Problems Identified and Corrected**
2008	4th Lake Rd: Entire road monitored; previously approved maintenance project completed, including installation of 10 culverts, and ditching and re-shaping on portions of 7 miles of the road, and routine grading occurred. Brushing of the road way was completed in 2007. Installation of a new bottomless arch culvert at Rolfe Brook to to improve aquatic habitat and fish passage completed. Additional ditching, culvert, and graveling work is planned for 2009 and beyond.
	Farm Cove Dam Rd.: entire road monitored, brushing completed; installation of new bottomless arch culvert at Scott Brook to improve aquatic habitat and fish passage and two new nearby cross-drain culverts completed
	Farm Cove Mountain Rd: road north to Burroughs Brook monitored; ditching and surface maintenance completed as needed to support harvest activities.
	Dobsis Dam Rd: entire road monitored; surface condition poor and limited surface erosion occurring; no substantial watershed impacts but maintenance improvements recommended for recreational use as funds available. Roadside brushing was completed in 2007.
2009	4th Lake Rd: Entire road monitored; routine seasonal gradings conducted, culvert replaced at mile 8.6.
	Farm Cove Dam Rd.: Entire road monitored; culvert replaced at mile 2.8
	Farm Cove Mountain Rd: road north to Burroughs Brook monitored; ditching and surface maintenance completed as needed to support harvest activities.
	Dobsis Dam Rd: entire road monitored; surface condition poor and limited surface erosion occurring; no substantial watershed impacts but maintenance improvements recommended for recreational use as funds available.
	Third Lake Rd: on Wabassus Tract acquired 12/08: entire road monitored; surface condition poor and limited surface erosion occurring; no substantial immediate watershed impacts but maintenance improvements recommended. Arch culvert installed at Wabassus tributary stream (see “Brook Trout” above). Major erosion risk exists on section of road below Wabassus Mt with highly eroded ditch that lacks functional cross drains; drainage restoration project planned for 2010.
	43-00-0 / Little River Rd: on Wabassus Tract acquired 12/08: entire road monitored; surface condition poor and limited surface erosion occurring; no substantial immediate watershed impacts but maintenance improvements recommended. Major portions lack adequate drainage ditches or cross drains and are at risk for erosion, surface extremely rough. Restoration project planned for 2010
	42-00-0 / Little River Rd: on Wabassus Tract acquired 12/08: entire road monitored; surface condition poor and limited surface erosion occurring; no substantial immediate watershed impacts but maintenance improvements recommended. Lacks adequate drainage ditches or cross drains and is at risk for erosion, surface extremely rough. Restoration project planned for 2010
	Wabassus Mt Rd: on Wabassus Tract acquired 12/08: entire road monitored; surface condition poor and limited surface erosion occurring; no substantial immediate watershed impacts. Lower priority for restoration.
2010	4th Lake Rd: Entire road monitored; routine seasonal gradings conducted
	42-00-0 and 43-00-0 Rds: Drainage and surface restoration projects completed, including culvert installations
	88 Rd: arch culvert installed at North Br; see “brook trout” above.
	Wabassus Mt Rd: arch culvert installed at North Br; see “brook trout” above.
2011	4th Lake Rd & Little River Rd: Entire roads monitored; routine seasonal gradings conducted

	3rd Lake Rd (60-00-0): Drainage and surface restoration project completed on northern portion of road, including culvert installations
2012	

Pesticides and Biological Control Agents

DLLT does not currently use pesticides or biological control agents. If in the future a need to use the agents arises, DLLT will prepare evaluate the risks, prepare appropriate application plans, and monitor use in accordance with the Farm Cove Community Forest Management Plan, the conservation easement, and Maine law and Forest Stewardship Council certification standards.

Social and Economic Monitoring

Social and Economic Monitoring					
Element	**2008**	**2009**	**2010**	**2011**	**2012**
Total volume of wood harvested (cords)	6425.5	7025.2	6896.1	7214.7	
Number of permanent DLLT employees	3	3	3	3	
Number of temporary DLLT employees	0	0	0	0	
Number of contractor and subcontractor employees	Appr. 10*	Appr. 10*	Appr. 10*	Appr. 10*	

* contractors and subcontractor employees include forester, President, and other employees of Orion Timberlands; foreman, operators, truckers, and other employees of the harvest contractor Davis Forestry Products; only harvest-related contractor employees are included here.

DLLT's board members and staff, and public meetings attended or hosted by DLLT are the major means by which DLLT monitors the public reaction to management.

2011 In the past year, DLLT has heard a number of strongly positive comments from year-round and seasonal residents and visitors, as well as other conservation organizations, elected officials, and administrators. The most frequent positive comments relate to DLLT's permanent conservation of lands, including preventing lakeshore development and guaranteeing public recreational access. We also have received positive comments related to our wildlife habitat projects. Comments specifically related to our activities of 2011 include that road conditions on the community forest continue to improve. We held a community meeting in Grand Lake Stream in November 2011 and heard significant positive feedback. One concern expressed related to ATV access to a site on Wabassus Lake.

Common Loon Monitoring

In addition to monitoring activities directly related to management of the Farm Cove Community Forest described in this report, DLLT has had a program of monitoring common loon productivity on lakes throughout the region, a project to establish a baseline set of data on loon reproduction that began in 2001 in cooperation with the U.S. Fish and Wildlife Service and

Biodiversity Research Institute. Monitoring was conducted in 2011 in partnership with the USFWS and Maine Audubon. An executive summary of the loon monitoring report is available upon request.

III. Periodic Forest Monitoring Data

Because the following data are gathered periodically (for example, every 5-10 years), this section of the report will be only updated as new data become available.

Forest Inventory

Standing Timber
Forest inventory is the basis of good forest management. The following is a summary of the data that have been collected on the forest.

Farm Cove Community Forest: Broad Forest Type & Volume Summary (2002)							
Broad Type	**Acres**	**SW Vol / Acre**	**SW Cds**	**HW Vol / Acre**	**HW Cds**	**Total Vol / Acre**	**Total Cords**
Cedar	260	6	1568	2.4	631	8.5	2199
Hardwood	3311	3.7	12212	5.7	18899	9.4	31112
Mixedwood	10907	13.1	143036	3.3	35892	16.4	178928
Softwood	10550	18	190345	2.2	23537	20.3	213882
Total	25028	13.8	347161	3.2	78960	17	426121

The last forest-wide inventory took place in 2000. Because new, high quality cover type maps were developed from 2005 aerial photography, DLLT may consider extending the period to undertake the next forest-wide inventory to 2015.

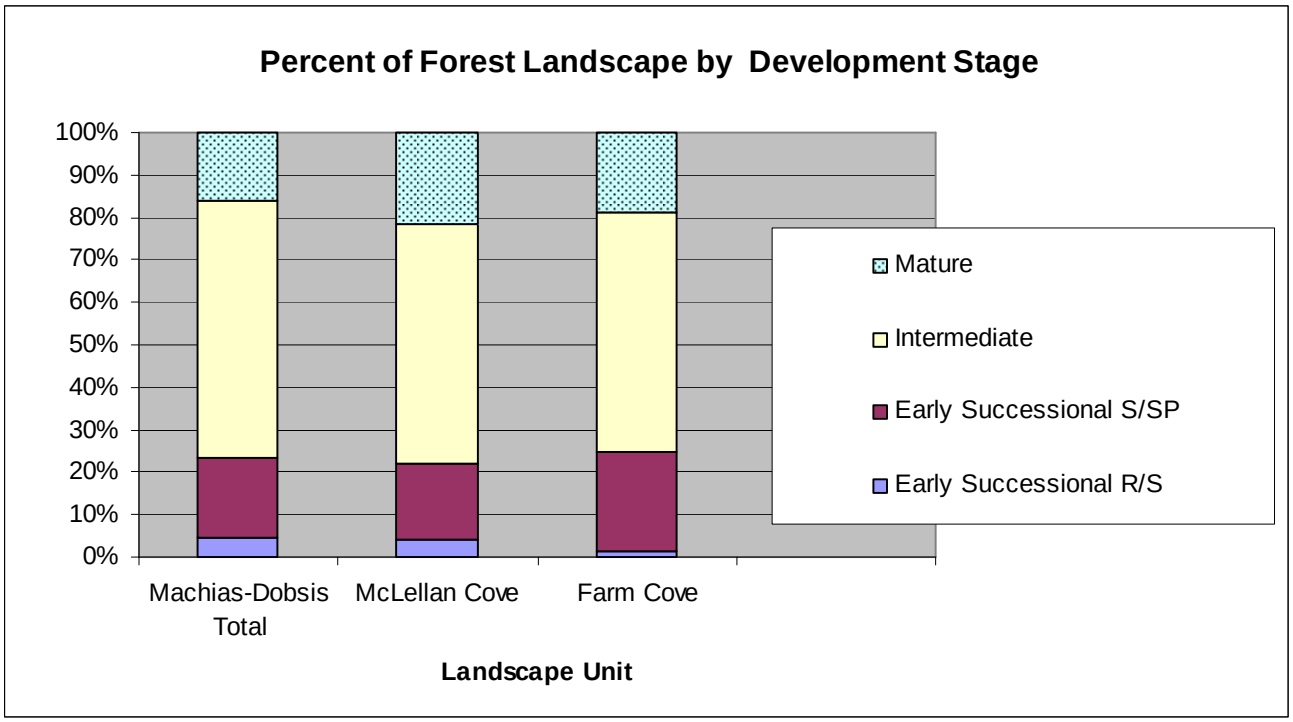
Forest inventory elements planned for the next forest-wide inventory			
Element	**Frequency**	**Strongly Recommended**	**Desirable**
Forest Inventory	Every 10 years. Last full inventory 2000. New air photos and type maps 2005.	1. Tree species, size, grade and density 2. Focus Species Development Stage 3. Snags 4. Other wildlife trees 5. Invasive species 6. Aerial photography and cover type maps	1. Species distribution by canopy layer (overstory, understory, ground cover) and percent cover of each layer. 2. Shrubs, wildflowers and other herbs, ferns and bryophytes. 3. Large downed woody material

Changes in Habitat Conditions

The Farm Cove Community Forest is managed for a range of forest types and ages to provide diverse and abundant habitat for wildlife species of interest to the local community. Aerial photographs and cover type maps are used to assess forest habitat conditions for most species. To help manage the forest, the management plan has divided the forest into the following management units.

Machias-Dobsis:	West of the thoroughfare between Wabassus and Pocumcus Lakes. This unit includes the Ecological Reserve, Late Successional Management Area (LSMA), and the remaining general forest management area (Dark Cove subunit).
McLellan Cove:	North of West Grand Lake
Farm Cove:	South of West Grand Lake and east of the Wabassus-Pocumcus thoroughfare. Includes 30 acres on Kitchen Cove Point

The graph below represents forest habitat conditions as of 2005 summarized from the cover type data. The next update of the cover type maps and data is expected in or before 2015, when the property is re-inventoried.



Deer Wintering Areas

Long-term monitoring of deer wintering areas is based on the percent of mapped primary and secondary cover in mapped DWA. DLLT has identified five DWA management areas totaling 7,420 acres. The objective is to have at least 25% of each DWA in primary cover and at least

50% in primary and secondary cover combined. Due ot heavy harvesting under previous ownership, none of the areas meet the DWA cover criteria.

Deer Wintering Areas Cover 2005						
DWA	Total Potential Cover*	Current Primary Cover		Current Secondary Cover	Current Primary + Secondary	Management Objectives Met?
	ac	ac	%	ac	%	Y/N
Belden Brook	1216	81	7%	438	43%	N
Burroughs Brook	549	52	9%	264	58%	N
Hayes Brook	1857	47	3%	82	7%	N
GL Brook	1855	80	4%	385	25%	N
Whitney Cove	270	0	0%	136	51%	N
Total	5746	259	5%	1305	27%	N

*Total cover includes all primary, secondary, and non-cover areas.

Change in DWA cover will be monitored when the cover type maps are updated (ca 2015). Section II includes a summary of annual management activities in DWA.

American Marten

The management plan for American marten ("pine marten") is based on maintaining large patches (over 1,200 acres) of mature forest. Monitoring is based on periodic inventories and cover type maps (i.e., every 10 years) to quantify habitat conditions.

2005 Marten Habitat Conditions							
Management Unit	Mapped Current and Future Marten Habitat[1]	Current Primary Habitat		Current Secondary Habitat		Total Current Habitat (2005)[2]	
	ac	ac	%[2]	ac	%	ac	%
Belden Brook	1691	628	37%	477	28%	1105	65%
Hayes Brook	1590	161	10%	24	1%	185	12%
Whitney Cove	458	198	43%	0	0%	198	43%
Burroughs Brook	1046	506	48%	0	0%	506	48%
Grand Lake Brook	2276	559	25%	0	0%	559	25%
Totals	**7060**	**2052**	**29%**	**500**	**7%**	**2552**	**36%**

[1] Managed forest only exclusive of potential habitat in the ecological reserve.

[2] "%" refers to the percent of the designated marten management units that meets habitat definitions. The long term goal is at least 37.5% of the area in marten management to meet primary habitat guidelines and at least 75% of the management units to meet primary plus secondary habitat guidelines.

Projections indicate that an average of 32% o the marten management units will meet primary habitat objectives in 20 years and 68% will meet secondary habitat objectives. The next monitoring is scheduled ca 2015 when the cover type maps will be updated.

Grouse and Woodcock

Long term potential high-value grouse and woodcock habitat is indicated by the total area and balance of development stages in the aspen-birch forest type. This is only a portion of the total area of habitat, because grouse will also be found in young and intermediate-aged northern hardwood and hardwood-dominated mixed forests.

2015 Grouse and Woodcock Habitat Conditions						
Management Unit	**Focus Species Development Stage (ac)**				**Aspen -Birch Total**	**All Types Total**
	Early Successional R/S	**Early Successional S/SP**	**Inter-mediate**	**Mature**		
Dark Cove (exclusive of the Ecological Reserve and LSMA)	28	444	76	14	562	4,546
Whitney Cove		46	187	60	293	2,703
Farm Cove		206	422		629	11,992
Aspen-Birch Total	28	697	685	74	1,484	19,240
Total Forest Acres						25,369

Additional aspen and birch stands are found in the Late Successional Management Area (LSMA) and Ecological Reserve. Because these areas will not be managed for grouse and woodcock, which require young, regenerating forests, the aspen-birch acres in these units will not be used to measure change in habitat due to management. See Section II for annual monitoring of habitat management activities.

Black-throated Blue Warbler/Mature Hardwood Forest

Black-throated blue warbler is the focal species for older intermediate and mature northern hardwood forest. Currently about 60% of this forest type in the DLLT FCCF as a whole is in the early successional stage and 6% is in the mature stage. The objective is to increase mature northern hardwoods to 15% of the total northern hardwood area by 2015 and 30% by 2025. The next monitoring will occur when the cover type maps are updated.

Hard Mast Management

Long-term plans for hard mast include experimental planting of American chestnut and red oak by 2012. These plots and chestnuts planted prior to 2007 will be monitored.

Year	Number of plots	Year Planted	Type of Planting	Year Monitored Monitored	Results
Planted Prior to 2008	8	2006	Seedlings	2008	Qualitative inspection only; surviving seedlings appear healthy and have received only moderate browse pressure; survival appears better away from raspberry vines in old wood yards
2008					
2009					
2010					
2011					
2012					

Rare Species, Natural Communities, and other Special Habitats

During 2002-2003 DLLT contracted with Dr. Norm Famous and Janet McMahon to inventory the anticipated DLLT acquisition lands for the presence of rare, threatened, or endangered wildlife and plant species. The final report and recommendations were completed in August of 2007. Additional information, including a list of rare species that could potentially be observed on the Community Forest, was requested and received from the Maine Natural Areas Program, and is summarized in the Farm Cove Community Forest Management Plan. DLLT's approach is to protect species by protecting their habitat, including areas designated as special management areas, late-successional forest, and ecological reserve. Monitoring for general conditions or unintended adverse impacts occurs primarily during forest harvest operations planning and implementation when harvests occur near or in special management areas.

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